

## CRP Technology AMC225xe Aluminum Alloy - SiC Composite, T4 Condition

Category : Metal , Metal Matrix Composite , Nonferrous Metal , Aluminum Alloy , 2000 Series Aluminum Alloy

### Material Notes:

AMC225xe is a high quality aerospace grade aluminum alloy (AA2124) reinforced with 25% by volume of ultrafine particles of silicon carbide. It is manufactured by a special powder metallurgy route using a proprietary high-energy mixing process which ensures excellent particle distribution and enhances mechanical properties. The key benefits of AMC225xe for structural applications include: weight saving; increased component stiffness; and high fatigue resistance. The combination of properties achieved with AMC225xe provides the potential for outstanding structural performance in a wide range of markets and applications including: Motorsport Performance valve train Cylinder liners Pistons Connecting rods Brake callipers Disk Bells Suspension parts Aerospace & Defense Aero engine vanes Aircraft structure Brakes and Wheels Control Systems Valve Blocks Information provided by CRP Technology.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_CRP-Technology-AMC225xe-Aluminum-Alloy-SiC-Composite-T4-Condition.php](http://www.lookpolymers.com/polymer_CRP-Technology-AMC225xe-Aluminum-Alloy-SiC-Composite-T4-Condition.php)

Physical Properties	Metric	English	Comments
Density	2.88 g/cc	0.104 lb/in <sup>3</sup>	

Mechanical Properties	Metric	English	Comments
Hardness, Vickers	210	210	HV10
Tensile Strength, Ultimate	65.0 MPa	9430 psi	short term exposure
	@Temperature 350 °C	@Temperature 662 °F	
	194 MPa	28100 psi	
Tensile Strength, Ultimate	@Temperature 260 °C	@Temperature 500 °F	short term exposure
	530 MPa	76900 psi	
	@Temperature 200 °C	@Temperature 392 °F	
Tensile Strength, Ultimate	616 MPa	89300 psi	short term exposure
	@Temperature 150 °C	@Temperature 302 °F	
	650 MPa	94300 psi	
Tensile Strength, Ultimate	@Temperature 20.0 °C	@Temperature 68.0 °F	short term exposure
	48.0 MPa	6960 psi	
	@Temperature 350 °C	@Temperature 662 °F	
Tensile Strength, Yield	128 MPa	18600 psi	short term exposure
	@Temperature 260 °C	@Temperature 500 °F	
	448 MPa	65000 psi	
Tensile Strength, Yield	@Temperature 200 °C	@Temperature 392 °F	short term exposure

Mechanical Properties	Metric	English	Comments
	474 MPa	68600 psi	short term exposure
	@Temperature 150 °C	@Temperature 302 °F	
	480 MPa	69600 psi	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Elongation at Break	5 %	5 %	
Modulus of Elasticity	84.0 GPa	12200 ksi	
	@Temperature 300 °C	@Temperature 572 °F	
	92.0 GPa	13300 ksi	
	@Temperature 250 °C	@Temperature 482 °F	
	102 GPa	14800 ksi	
	@Temperature 200 °C	@Temperature 392 °F	
	108 GPa	15700 ksi	
	@Temperature 150 °C	@Temperature 302 °F	
	115 GPa	16700 ksi	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Poissons Ratio	0.30	0.30	
Fatigue Strength	305 MPa	44200 psi	R=-1; Kt=1; Rotating Bend
	@# of Cycles 1.00e+7	@# of Cycles 1.00e+7	
	340 MPa	49300 psi	R=-1; Kt=1; Rotating Bend
	@# of Cycles 1.00e+6	@# of Cycles 1.00e+6	

Thermal Properties	Metric	English	Comments
CTE, linear	13.4 µm/m-°C	7.44 µin/in-°F	
	@Temperature -75.0 °C	@Temperature -103 °F	
	14.8 µm/m-°C	8.22 µin/in-°F	
	@Temperature -25.0 °C	@Temperature -13.0 °F	
	16.0 µm/m-°C	8.89 µin/in-°F	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
	17.6 µm/m-°C	9.78 µin/in-°F	
	@Temperature 75.0 °C	@Temperature 167 °F	
Specific Heat Capacity	0.836 J/g-°C	0.200 BTU/lb-°F	

Thermal Properties	Metric	English	Comments
Thermal Conductivity	W/m-K	Btu-in/hr-ft <sup>2</sup> -°F	
Melting Point	>= 548 °C	>= 1020 °F	Solidus
Solidus	548 °C	1020 °F	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000082 ohm-cm	0.0000082 ohm-cm	

Processing Properties	Metric	English	Comments
Processing Temperature	505 °C	941 °F	Solution Heat Treatment

## Contact Songhan Plastic Technology Co.,Ltd.

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